RAJALAKSHMI ENGINEERING COLLEGE

**THANDALAM – 602 105.**

**PRINCIPLES OF ENVIRONMENTAL SCIENCE & ENGINEERING**

**SUBJECT CODE - GE2021**

## QUESTION BANK

**UNIT – I**

## PART – A

1. **Define Environmental studies.**
2. **What are the principles of environmental education?**
3. **Mention the scope and importance of Environmental studies.**
4. **Define Ecology?**
5. **Define Eco-System with an example?**
6. **What are the structural components of an Ecosystem?**
7. **Bring out the functional features of an Ecosystem?**
8. **Differentiate between Food Chain and Food Web?**
9. **What are Ecological Pyramids. Give examples.**
10. **Pyramid of energy is always upright. Explain.**
11. **What are Biochemical cycles. Explain their importance?**
12. **What is the significance of Ecological pyramids?**
13. **There found to be only 4 to 5 trophic levels in any Ecosystem. Explain.**
14. **What is Ecological Succession. Mention its types.**
15. **Discuss about the prime characteristics of**

**a.Forest Ecosystem**

**b.Grassland Ecosystem**

**c.Desert Ecosystem**

**d.Aquatic Ecosystem**

1. **Differentiate species and genera. (or) Define genetic diversity.**
2. **Differentiate between biodiversity and ecosystem biodiversity.**
3. **What are hotspots of biodiversity?**
4. **Justify India to be a great spot of biodiversity.**
5. **Bring out the threats towards biodiversity .How poaching affects biodiversity.**
6. **Define Endemism with an example.**
7. **What are endangered species? Give examples.**
8. **What are the aesthetic values of biodiversity.**
9. **What are National Parks. Name few parks in India.**
10. **Explain the necessity to conserve biodiversity.**
11. **What are GPP and NPP.**
12. **What is Ecological regulators.**
13. **Define Food Chain with an example.**
14. **Define Food Web with an example.**
15. **Discuss the water cycle.**
16. **Bring few methods to conserve biodiversity.**
17. **What is stratification?**
18. **Bring out the classification of aquatic ecosystem.**
19. **Explain ecological; pyramids with respect to pond ecosystem.**
20. **What is ecosystem diversity.**
21. **Bring out the Bio-geographical classification of India.**
22. **Comment on local or regional biodiversity.**
23. **Explain Endemism with respect to India.**
24. **Bring out the order of distribution of biodiversity through out the world with reasons.**
25. **What is biodiversity and its significance.**
26. **Explain biosphere.**
27. **Explain threatened species.**

## PART-B

**1. Explain the components, characteristics and biodiversity of Forest ecosystem.**

**2. Explain the structure and functional features of Aquatic ecosystem.**

**3. Discuss in detail about Ecological succession stating the various stages.**

**4. What are trophic levels? Explain the flow of energy and minerals in ecosystem.**

**5. Explain the two models of energy flow in an ecosystem.**

**6. Discuss the value of biodiversity.**

**7. Explain Carbon and Nitrogen cycles.**

**8. Explain the Sulphur and Phosphorus cycles.**

**9. What are the threats faced by biodiversity. What are the solutions for the threats.**

**10. Explain In-situ and Ex-situ conservation of biodiversity.(or) What are the measures recommended for conservation of biodiversity.**

## UNIT-II

## PART-A

1. **Define Pollution.**
2. **What are the types of pollutants.**
3. **What are the types of Air pollutants.**
4. **What is suspended particulate matter. Give example.**
5. **Define photochemical smog.**
6. **What are types of acid rain.**
7. **How will you control air pollution.**
8. **Give the major water pollutants with example.**
9. **What is meant by point and nonpoint sources.**
10. **What is chlorosis and necrosis.**
11. **What is bioaccumulation.**
12. **Mention the diseases caused by nitrates.**
13. **Define BOD and COD.**
14. **Define soil pollution.**
15. **What are the sources of soil pollution.**
16. **What are the sources effects of marine pollution.**
17. **What are the control methods of thermal pollution.**
18. **Give the sources of radio activity.**
19. **Classify solid wastes.**
20. **What are the sources of urban and industrial wastes.**
21. **Why do earth quake occur.**
22. **What are the damages caused by io0nic radiations.**
23. **What are the various types of natural disasters.**
24. **What are the roles of a citizen in reducing pollution.**
25. **What are Municipal Solid Wastes(MSW)**
26. **What is composting.**
27. **What is incinerators.**
28. **What are aerosols. Give examples.**
29. **Explain aerobic and anaerobic oxidation.**
30. **What are the two main commonly used radio isotopes in nuclear fission reactions?**
31. **Explain disaster management briefly.**
32. **What is meant by automobile pollution.**
33. **What is domestic sewage?**
34. **What are the sources and effects of air pollutants.**

**35. Define thermal pollution.**

**PART- B**

**1.Mention the sources and effects of various air pollutants.**

**2. Describe the method of control of air pollution.**

**3.Briefly describe the sources effects and control of noise pollution.**

**4. Enumerate with example the major sources of surface and ground water**

**pollution.**

**5. Wrtie short notes on a) Minimata disease b) blue baby syndrome c) itai-itai**

**disease.**

**6. Explain the method of sewage water treatment.**

**7. What are the major sources of soil pollution?**

**8. What are the measures to be taken to prevent soil pollution?**

**9. Explain in detail the Solid waste management techniques.**

**10. Write notes on (i) Floods (ii) Landslides (iii) Cyclones.**

**11. Explain any two case studies on Nuclear pollution.**

**12. What are the sources, effects & control measures of Marine pollution?**

**13. Explain the various types of Radio-active radiations.**

**14. Explain the causes,effects & control measures of Water pollution.**

**15.What are the effects of improper municipal solid waste management? State**

**the measures recommended for proper management of the solid waste.**

**16.Explain the methods of disposal of municipal solid waste.**

**17.Write notes on disposal of radio-active wastes.**

**18.Compare the nuclear power with coal power.**

**19.What are the causes of soil erosion and methods of preventing it.**

**20.Discuss the aspects of prevention & control of noise.**

## UNIT-III

**PART-A**

1. **What is mining? Mention the methods of mining.**
2. **Enumerate the effects of mining on the environment.**
3. **What are Dams? How is it useful to human beings?**
4. **Discuss the problems of over-exploitation of Ground water.**
5. **What are the methods of flood control?**
6. **What are the up-stream impacts of constsruction of dams?**
7. **Define under-nutrition & mal-nutrition.**
8. **What are the merits of using renewable energy resources?**
9. **Why alternate energy resources are required?**
10. **What is the application of wind energy?**
11. **Write a note on Geo-Thermal energy.**
12. **What is soil erosion?**
13. **Differentiate between renewable & non-renewable energy resources.**
14. **Mention the advantages & disadvantages of modern agriculture.**
15. **Differentiate between organic and synthetic fertilizers.**
16. **What is an aquifer? Mention its types.**
17. **What are the types of mining?**
18. **Mention the types of drought.**
19. **What are super-pests?**
20. **Define Eutrophication.**
21. **What is biological magnification?**
22. **What is organic farming?**
23. **What is meant by sustainable development?**
24. **What are the major causes of deforestation?**
25. **Mention the effects of ground water usage?**
26. **What are the types of minerals?**
27. **What is microbial leaching technique?**
28. **What is carrying capacity?**
29. **What are the types of soil erosion?**
30. **What are the uses of various types of minerals?**
31. **What is bio-gas?**
32. **What is nuclear energy?**
33. **Define sustainabe forestry.**
34. **State the environmental effects of extracting & using mineral resources.**
35. **State the need for public awareness for solving environmental problems.**
36. **What is water logging?**
37. **What is salinization?**
38. **How forests are useful to mankind?**

# PART – B

1. **What are conventional energy resources? Discuss about solar energy and Ocean thermal energy.**
2. **Discuss the major causes & consequences of deforestation?**
3. **Explain the major impacts of timber extraction and mining.**
4. **Enumerate the various benefits and drawbacks of constructing dams.**
5. **What are the uses and over-exploitation of water? Explain with a case-study.**
6. **Comment on floods & drought.**
7. **What are the environmental impacts of mineral extraction? Explain.**
8. **Discuss in detail the impacts of over-grazing & agriculture.**
9. **Write short notes of (i) Tidal energy (ii) Bio-gas (iii) Nuclear energy.**
10. **Explain the various types of land degradation.**
11. **Explain as an individual how will you conserve natural resources.**
12. **How will you achieve sustainable life-style by equitable share of resources.**
13. **What are the measures recommended for conservation of natural resources.**
14. **Explain briefly the various methods of harvesting solar energy.**
15. **Explain in detail the effects due to pesticides usage in moderns agriculture.**

**UNIT – IV**

**PART – A**

1. **Define Sustainable development.**
2. **Write a note on Earth Summit – 1992.**
3. **Bring out the important aspects of sustainable development.**
4. **Write a note on 3R principle.**
5. **Define Rain Water Harvesting.**
6. **What are the objectives of rain water harvesting?**
7. **What is water Shed?**
8. **What are the objectives (or) principles of watershed management?**
9. **Write a note on agro-forestry.**
10. **Name few Green-House gases.**
11. **What are the effects of global warming?**
12. **Mention few practices to reduce global warming.**
13. **Explain acid-rain and its effects.**
14. **Bring out the reactions taking place at stratosphere.**
15. **What are the effects of Ozone-Layer depletion?**
16. **Compare Consumerism & Waste generation.**
17. **Enlist the factors affecting the sustainable society.**
18. **Differentiate between Re-habilitation & Re-settlement of people.**
19. **Mention the objectives of Environment Protection Act.**
20. **Enlist the objectives of Air-Pollution Act.**
21. **Explain the Wild-Life protection Act.**
22. **Explain the necessity of Environmental Legislation.**
23. **What is nuclear holocaust? How can it occur?**
24. **Write a note on crop rotation.**
25. **Discuss the articles 48-A & 51-A of Indian Constitutional provision for Environmental protection.**
26. **Write a note on CPCB & SPCB.**
27. **Indicate some methods to create environmental awareness among public.**
28. **How can we achieve the goal of sustainable development?**
29. **Define environmental ethics.**
30. **How does a climate change occur?**
31. **Mention any two control measures on acid rain.**
32. **What is acid deposition ?**
33. **Define population explosion.**

# PART – B

1. **Bring out the activities of NGO’s on environmental protection.**
2. **Discuss about the Forest Act, 1980 and its amendment –1992.**
3. **Describe about Water Act – 1974.**
4. **Describe the important waste land reclamation practices.**
5. **Describe environmental ethics in detail.**
6. **Discuss the modern techniques of rain water harvesting.**
7. **Discuss the water shed management practices.**
8. **Discuss in detail about the water conservation methods.**
9. **Discuss the agenda for sustainable development.**
10. **Write in detail about global warming.**
11. **Explain the mechanism of Ozone layer depletion.**
12. **Write briefly on community participation in environment management programmes.**
13. **Discuss briefly of the Indian environmental Acts.**
14. **Write short notes on a) environmental ethics b) waste land reclamation.**
15. **State the important provisions in Environment protection Act , Air Act Water Act.**
16. **Explain the role of NGOs in Environmental management.**

**UNIT – V**

# PART –A

1. **Write short notes on population dynamics.**
2. **What are the factors affecting population size?**
3. **What is meant by population stabilization.**
4. **Define the term population explosion.**
5. **What kinds of problems are created due to Urbanisation?**
6. **What are the objectives of Family Planning Programmes?**
7. **Mention the types of health hazards with examples.**
8. **What is the role of primary health care against AIDS?**
9. **What do you mean by remote sensing?**
10. **Mention the applications of remote sensing on water resources.**
11. **What is doubling time, total fertility rates?**
12. **Define Zero Population growth.**
13. **What are the two important views of population growth?**
14. **What is meant by value education?**
15. **What is GIS?**
16. **Define (i) Toxins (ii) Carcinogens (iii) Tetrogenic (iv) Neurotoxins.**
17. **State how environment & human health are related?**

# PART – B

1. **Explain the population characteristics & variations among nations.**
2. **What is meant by population explosion? Discuss the Indian Scenario.**
3. **What is meant by population stabilization? Discuss the family welfare and family planning in Indian context.**
4. **Discuss the influence of environmental parameters and pollution on human health.**
5. **What is Universal declaration of Human rights? What is its importance in achieving the goals of equity, justice & sustainability.**
6. **Discuss the salient features of Draft declaration of Human Rights on environment.**
7. **What are the objectives & elements of Value-education? How can the same be achieved?**
8. **Briefly discuss HIV/AIDS, mode of its spread and its effect on environment.**
9. **Discuss various issues & measures for Women & Child Welfare at International & National level.**
10. **What is the role of NMIS, ENVIS & GIS in dissemination of environmental information and environmental management?**
11. **Explain the role of Information Technology in environment & Human health.**
12. **Discuss the environmental and social impacts of growing population.**
13. **Write briefly on the effect of increasing affluence on environment.**
14. **Write briefly on implementation of family planning programme.**
15. **Write a note on AIDS in developing countries.**
16. **Discuss the factors influencing the family size.**

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